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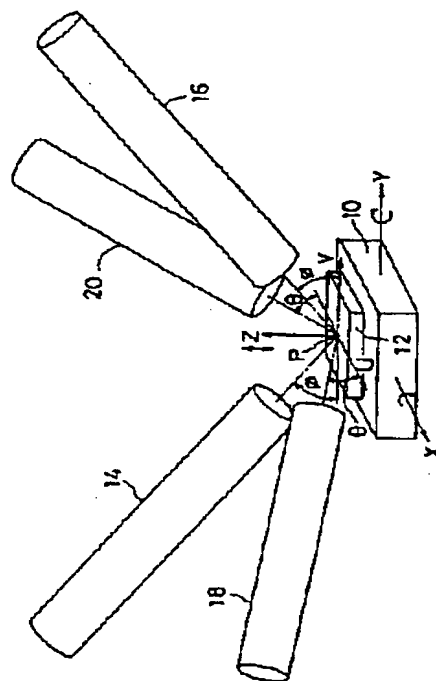
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TITLE : ELLIPSOMETER AND ITS USING METHOD



ABSTRACT : PURPOSE: To correctly position an ellipsometer by providing two pairs of a casting arm which casts polarized beams to the surface of a sample and an ellipsometric analysis arm which receives the light reflected at the sample surface and analyzes the polarizing state, in a manner that the measuring points of the arms are agreed with each other.

CONSTITUTION: A measuring position P in the Z axis direction is adjusted so that the positions of the spots formed on a sample 12 by the polarized beams projected from casting arms 14 and 18 are agreed with each other. Moreover, the measuring position P in the X and Y axes directions are also adjusted so that the intensity of the light detected by ellipsometric arms 16 and 20 is maximum. Because of this positioning of the sample 12, the measuring point by the arms 14, 16 is always coincident with the measuring point of the arms 18, 20. If angles of incidence ϕ and θ of the arms 14, 18 to the sample 12 are made different, or the wavelengths of the light projected from the arms 14, 18 are made different, the thickness and the index of refraction of a film formed on the surface of the sample 12, extinction coefficient and the like optical constants can be determined at one measurement.

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